

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) An image processing system for searching images on a network, the image processing system comprising:

(a) a search engine;

(b) an image analyzer coupled to said search engine, said image analyzer for comparing first and second images provided thereto from said search engine, wherein:

the first image is associated with a first code,

the second image is associated with a second code,

the first code is descriptive of the first image's content,

the second code is descriptive of the second image's content,

and

the image analyzer uses image analysis of the first and second images along with a comparison of the first and second codes in determining if the first and second images are likely to compare favorably; and

~~(c) one or more feature modules coupled to one of said search engine and said image analyzer, each of said feature modules for providing to said image analyzer information specific to a particular application.~~

2. (Original) The system of Claim 1 further comprising an input system coupled to one of said search engine and said image analyzer, said input system comprising of at least one of: a graphical user interface; a facsimile system; a camera system; a scanner; a network connection; and a video system.

3. (Currently Amended) The system of Claim 21 wherein each of said one or more feature modules defines at least one particular region of an image and at least one particular measurement to make on pixels within each of the at least one particular image region.

4. (Original) The system of Claim 3 wherein each of said one or more feature modules defines at least one measurement to make on one or more pixels in an image region neighboring the one particular image region.

5. (Original) The system of Claim 3 further comprising a storage device having at least one image stored therein coupled to one of said a search engine, said image analyzer and said feature module.

6. (Withdrawn) A process for comparing two images comprising the steps of:

- (a) aligning a target image and a selected image each of the target and selected image having at least one property;
- (b) dividing the selected image into a plurality of image regions each of the image regions having at least one property;
- (c) combining properties in predetermined ones of the plurality of image regions;
- (d) selecting a primary image region within the selected image;
- (e) selecting a target image region; and
- (f) comparing one or more properties of the primary image region within the selected image to a corresponding one or more properties in the target image region.

7. (Withdrawn) The process of claim 6, further comprising the steps of:
(g) assigning a score indicating the difference between the one ore more properties in the primary image region within the selected image and the corresponding one or more properties in the target image region;
(h) selecting a next region in the target image;

(i) comparing one or more properties of the primary image region within the selected image to a corresponding one or more properties in the next target image region; and

(j) assigning a score indicating the difference between the one or more properties in the primary image region within the selected image and the corresponding one or more properties in the next target image region.

8. (Withdrawn) The process of Claim 7 further comprising the step of repeating step (h)-(j) for each of a predetermined number of regions in the target image.

9. (Withdrawn) The process of Claim 8 further comprising the step of finding the best match between the primary image region and one of the predetermined regions in the target image.

10. (Withdrawn) The process of Claim 9, further comprising the steps of: selecting a next primary image region in the selected image; and repeating steps (h)-(j) for each desired primary image region.

11. (Withdrawn) A method of manufacturing a printed circuit board comprising the steps of:

(a) performing a manufacturing operation on a printed circuit board; and
(b) inspecting the result of the manufacturing operation by comparing an image of the actual operation being performed to a target image of the manufacturing operation being inspected.

12. (Withdrawn) The method of claim 11 wherein said inspection step comprises the steps of:

capturing an image of a portion of the printed circuit board wherein said captured image portion includes an image of the printed circuit board having the manufacturing operation applied thereto;

selecting a region of the captured image;

dividing the selected image into a plurality of image regions each of the image regions having at least one property;

combining properties in predetermined ones of the plurality of image regions; selecting a primary image region within the selected image; selecting a target image region; and comparing one or more properties of the primary image region within the selected image to a corresponding one or more properties in the target image region.

13. (Withdrawn) The process of claim 12, further comprising the steps of:

assigning a score indicating the difference between the one or more properties in the primary image region within the selected image and the corresponding one or more properties in the target image region;

selecting a next region in the target image;

comparing one or more properties of the primary image region within the selected image to a corresponding one or more properties in the next target image region; and

assigning a score indicating the difference between the one or more properties in the primary image region within the selected image and the corresponding one or more properties in the next target image region.

14. (Withdrawn) The process of claim 13 wherein for each of a predetermined number of regions in the target image the method further comprises the step of repeating the steps of: (a) selecting a next region in the target image; (b) comparing one or more properties of the primary image region within the selected image to a corresponding one or more properties in the next target image region; and (c) assigning a score indicating the difference between the one or more properties in the primary image region within the selected image and the corresponding one or more properties in the next target image region.

15. (Withdrawn) The process of claim 14 further comprising the step of finding the best match between the primary image region and one of the predetermined regions in the target image.

16. (Withdrawn) The process of claim 15, further comprising the steps of: selecting a next primary image region in the selected image; and for each desired primary image region repeating the steps of: (a) selecting a next region in the target image; (b) comparing one or more properties of the primary image region within the selected image to a corresponding one or more properties in the next target image region; and (c) assigning a score indicating the difference between the one or more properties in the primary image region within the selected image and the corresponding one or more properties in the next target image region.

17. (Withdrawn) The process of claim 16 wherein the manufacturing operation corresponds to a solder paste application step.

18. (Withdrawn) The process of claim 16 wherein said manufacturing operation corresponds to a component placement operation.

19. (Withdrawn) The process of claim 16 wherein said manufacturing operation corresponds to a solder reflow operation.

20. (Withdrawn) The process of claim 16 wherein said manufacturing operation corresponds to a solder joint inspection operation.

21. (New) The system of Claim 1 further comprising one or more feature modules coupled to one of said search engine and said image analyzer, each of said feature modules for providing to said image analyzer information specific to a particular application.

22. (New) An image processing system for processing images stored on a network, the image processing system comprising:

a search engine coupled to the network;

an image analyzer coupled to said search engine, wherein:

- the first image is associated with a first code,
- the second image is associated with a second code,
- the first code is descriptive of the first image's content,
- the second code is descriptive of the second image's content, and
- the image analyzer processes of the first and second images in determining if the first and second images are likely to compare favorably,
- the image analyzer uses a comparison of the first and second codes in determining if the first and second images are likely to compare favorably; and
- an input system coupled to at least one of said search engine and said image analyzer.

23. (New) The image processing system for processing images stored on the network as recited in claim 22, further comprising one or more feature modules coupled to one of said search engine and said image analyzer, each of said feature modules for providing to said image analyzer information specific to a particular application.

24. (New) The image processing system for processing images stored on the network as recited in claim 22, wherein said input system comprising of at least one of: a graphical user interface; a facsimile system; a camera system; a scanner; a network connection; and a video system.

25. (New) A method for processing images to compare a first image with a second image, the method comprising steps of:
reading the first image;
reading the second image, wherein at least one of the first and second images are read from a network;
reading a first code associated with the first image, wherein the first code categorizes the first image;

reading a second code associated with the second image, wherein the second code categorizes the second image;

analyzing of the first and second codes;

comparing the first and second images; and

determining if the first and second images are likely to compare favorably based, at least in part, on outcomes from the comparing and analyzing steps.

26. (New) The method for processing images as recited in claim 25, further comprising a step of displaying a plurality of images that compare favorably with at least one of the first and second images, wherein the order of the plurality of images that are displayed corresponds with a likelihood of a match.

27. (New) The method for processing images as recited in claim 25, further comprising a step of logically combining the first and second images to perform a search for similar images.

28. (New) The method for processing images as recited in claim 25, wherein the analyzing step is performed before the comparing step.

29. (New) The method for processing images as recited in claim 25, wherein the first image is combined with other images to search for the second image.

30. (New) The method for processing images as recited in claim 25, further comprising steps of:

analyzing a plurality of codes corresponding to a plurality of images;

comparing the first image with the plurality of images;

displaying the plurality of images according to a likelihood of a match between the first image and the plurality of images.

31. (New) A method for processing images to compare a first image with a plurality of images to find a second image, the method comprising steps of:

reading the first image;
processing the first image to create first information at least related to the first image;
reading a first code associated with the first image, wherein the first code categorizes the first image;
reading a plurality of images;
processing each of the plurality of images to respectively create information at least related to each of the plurality of images;
reading a plurality of codes associated with the plurality of images, wherein the codes categorize the plurality of images;
comparing of the first codes with the plurality of codes to find a subset of the plurality of images;
comparing the first information with the information for the subset; and
determining if the subset compares favorably with the first image, at least in part, on an outcome from the immediately-preceding comparing step.

32. (New) The method for processing images as recited in claim 31, wherein the first information is gathered from two or more images.

33. (New) The method for processing images as recited in claim 31, further comprising a step of displaying the plurality of images, wherein the order of the plurality of images corresponds with a likelihood of a match to the first image.

34. (New) The method for processing images as recited in claim 31, wherein the first-listed processing step comprises a step of logically combining the first image and a second image to create the first information.

35. (New) The method for processing images as recited in claim 31, wherein the first information is gathered from the first image and a negative example that does not match the first image.